

## ABSTRACT OF THE DISCLOSURE

While a rotor 4 of a permanent-magnet rotary machine 1 is rotating and an armature current thereof is substantially zero, a motor controller 2 performs a dq vector control process to control the permanent-magnet rotary machine 1 in a dq coordinate system which has a d-axis representing the direction of a magnetic field of the rotor 4 and a q-axis representing a direction perpendicular to the d-axis, and determines a magnetic pole position correcting quantity  $\theta_{ofs}$  to correct a magnetic pole position  $\theta_{act}$  detected by a magnetic pole position detector 8 so that a d-axis voltage command value  $V_{dc}$  determined by the dq vector control process will be substantially zero. The motor controller 2 controls the phases of armature voltages  $V_{uc}$ ,  $V_{vc}$ ,  $V_{wc}$  with magnetic pole positions corrected by the magnetic pole position correcting quantity  $\theta_{ofs}$ . Irrespective of whether the rotary machine 1 is a cylindrical machine or a salient-pole machine, the detected values of magnetic pole positions are appropriately corrected according to a simple process without the need for a voltage detector for thereby efficiently controlling operation of the permanent-magnet rotary machine 1.